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In the Matters of:

CC Docket No. ~~92-297~~
RM-7872; RM-7722

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OFFICE OF THE SECRETARY

PP-22

University of Texas - Pan American Petition for Reconsideration of Pioneer's Preference Request Denial

To: The Commission

JOINT COMMENTS OF EDUCATIONAL PARTIES

Submitted by:

Todd G. Gray
Kenneth D. Salomon

DOW, LOHNES & ALBERTSON
1255 Twenty-third Street, N.W.
Suite 500
Washington, D.C. 20037
(202) 857-2500

March 16, 1993

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SUMMARY

These Joint Comments are filed by Educational Parties who support the Commission's proposal to create the LMDS in the 27.5-29.5 Ghz frequency band. LMDS technology as demonstrated by the Suite 12 Group appears to offer a means to deliver sophisticated video, audio and data communications to local areas. However, the FCC should not be so quick to relegate the entire band -- 2,000 Mhz of spectrum -- to commercial wireless cable operations. LMDS offers the prospect of serving as a "last mile" technology for critical educational telecommunications functions. The importance of these "last mile" functions is reflected in a new NTIA grant program proposed by President Clinton in his economic plan. Further study and experimentation is needed before a judgment can be definitively made that LMDS has a significant role to play in this country's future educational telecommunications infrastructure. In the meantime, the FCC should not move forward in this proceeding in a manner that precludes, all at once, the prospects of the use of the 28 Ghz band for other than pay TV services.

The Educational Parties urge the FCC to allocate only one of the 1,000 Mhz blocks for commercial purposes as set forth in the Notice. The other 1,000 Mhz block should be reserved -- at least temporarily -- while the educational community, under the auspices of the Clinton Administration, studies the "last mile" issue. In addition, the Educational Parties urge that commercial LMDS licenses be conditioned on accommodating educational users so that the LMDS technology can be used for

educational purposes even where such users are not in a position to construct and operate the systems themselves.

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The American Council on Education, Board on Distance Education and Telecommunications of the National Association of State Universities and Land Grant Colleges, Instructional Telecommunications Consortium of the American Association of Community Colleges, Western Cooperative for Educational Telecommunications, Arizona Board of Regents for Benefit of the University of Arizona, California State University, Alliance for Higher Education, Iowa Public Broadcasting Board, University of Maine at Augusta, University of Washington, University of Wisconsin System,

Washington State University, South Carolina Educational Television Commission and Ana G. Mendez Educational Foundation (collectively, the "Educational Parties"), by their attorneys, submit these comments in response to the Notice of Proposed Rule Making, Order, Tentative Decision, and Order on Reconsideration in CC Docket No. 92-297, RM-7872 and 7722 and PP-22 (released January 8, 1993) ("Notice"), relating to the proposed Local Multipoint Distribution Service ("LMDS").

Educational Parties

The American Council on Education. ACE, founded in 1918, is one of the nation's leading higher educational organizations. Its members include more than 1,500 colleges and universities, both public and private, as well as other higher education groups. ACE aims to promote and preserve the goals of higher education, including the interests of its constituent institutions, their students, faculty and administrators.

Board on Distance Education and Telecommunications of the National Association of State Universities and Land Grant Colleges. The Board is composed of eighteen state universities that are actively engaged in the delivery of education and training programming via telecommunications systems. It was created to serve as a voice of higher education in the development of federal legislation and regulations affecting educational uses of telecommunications. NASULGC is the nation's oldest higher education association, composed of public research universities and the nation's land grant institutions. NASULGC's membership includes 161 institutions enrolling more

than 2.9 million students. NASULGC provides a forum for the discussion and development of policies affecting higher education and the public interest.

Instructional Telecommunications Consortium of the American Association of Community Colleges. ITC is a national organization composed of and directed towards meeting the needs of educators and organizations involved in higher education, instructional telecommunications and distance learning. ITC has over 400 institutional members. AACC and the more than 1,200 community colleges the Association represents seek to serve the public interest by providing student access to excellent higher education programs.

Western Cooperative for Educational Telecommunications. WCET represents 150 higher education institutions, state education agencies and other non-profit and for-profit groups in 15 western states. Through a variety of interstate cooperative projects and information and resource exchange services, WCET assists its members in strengthening the efficiency, impact, and quality of educational telecommunications systems and programs.

Arizona Board of Regents for Benefit of the University of Arizona. The University of Arizona is a long-time player in public broadcasting and educational telecommunications. UA operates 16 ITFS and three OFS channels in Tucson, as well as public TV, public radio, TV and FM translators and satellite facilities.

California State University. The CSU System is the largest undergraduate teaching university in the United States. Its 20 campuses provide instruction to some 350,000 students. CSU is a significant user of distance learning technology. Fifteen of the campuses utilize ITFS, most have access to satellite transmissions, and several are actively providing instruction via compressed video over telephone lines.

Alliance for Higher Education. AHE is a consortium of 21 north Texas area colleges and universities operating ITFS and microwave facilities in the Dallas/Forth Worth area. AHE's instructional television service is part of a comprehensive interactive system which connects AHE member institutions to each other and to major corporations, hospitals and medical centers.

Iowa Public Broadcasting Board. IPBB is an agency of the State of Iowa charged with the coordination of educational telecommunications activities within the state. In addition to operating an eight-station public TV network and a number of ITFS facilities, IPBB is overseeing the state's construction of a \$200 million fiber optic backbone system linking educational and governmental users around the state.

University of Maine at Augusta. UMA is a unit of the University of Maine System that offers community college instruction throughout the State of Maine. UMA is one of the country's largest ITFS users, operating nearly 30 ITFS stations in seven regions of the state, and is recognized as an innovator in distance learning.

University of Washington. The University of Washington (UW) is a leading public research institution. In part because of its service to geographically dispersed populations across the northwest, and in part because of its focus on research and innovation, UW has established a strong record of using a wide array of telecommunications technologies to support education, health care, research, technology transfer, cultural endeavors and public enrichment.

University of Wisconsin System. UWS is a major state university system operating 13 campuses throughout the State of Wisconsin. UWS, with the State Educational Communications Board, operates the Wisconsin public radio and public TV networks. It is licensee of public TV, public radio and ITFS stations. It is also a significant player in instructional telecommunications technologies.

Washington State University. WSU, founded in 1889, is a land-grant institution with campuses at Pullman, Spokane, Richland and Vancouver, all in Washington. WSU is a leader in the development of innovative uses of telecommunications to increase access to educational opportunities for citizens of Washington and beyond.

South Carolina Educational Television Commission. SCETV is an agency of the State of South Carolina charged with the responsibility of operating the state's public TV and radio networks (composed of 11 TV stations and 8 radio stations), as well as the state's extensive educational telecommunications system. SCETV is the nation's

largest single ITFS user, with 65 ITFS stations delivering educational programming to every school in the state.

Ana G. Mendez Educational Foundation. The Foundation operates three institutions of higher education in Puerto Rico, as well as two public TV stations and an island-wide ITFS network. It is a founding member of the Hispanic Educational Satellite Service ("HESS") and a strong proponent of distance learning.

Need for "Last Mile" Technology in Educational Telecommunications

It has become abundantly clear that education is critical in achieving our country's national agenda, particularly with respect to our economic development and our international competitiveness. It has also become clear that telecommunications technology must play an important role in delivering education and training to schools, businesses and homes. The Congressional Office of Technology Assessment ("OTA") has noted that rapid advances in technology are creating distance learning systems that are far more powerful, flexible and, increasing, affordable than anything in the past.^{1/} The National Telecommunications and Information Administration ("NTIA") has noted the widening consensus that telecommunications can be a powerful tool for delivering educational services to students of all ages and in all areas.^{2/}

1/ Linking for Learning: A New Course for Education, Office of Technology Assessment (1989).

2/ The NTIA Infrastructure Report: Telecommunications in the Age of Information, DOC/NTIA (1991).

Long haul technologies such as fiber optics, satellites and microwave facilities already exist in many places to serve educational needs.^{3/} Many states also have local distribution technologies such as ITFS that can serve institutional sites such as schools and government buildings.^{4/} The problem is to develop a cost-effective "last mile" technology that can serve individual homes and businesses in a manner that provides sufficient capacity, flexibility and interactivity.

^{3/} For example, in Iowa, a backbone fiber optic system financed by the state and coordinated by the Iowa Public Broadcasting Board is being constructed to integrate ITFS, terrestrial microwave, cable TV and satellite facilities to provide educational telecommunications capabilities permitting the state's 15 community college districts to reach beyond their campuses. One innovator of long-haul technology, the National Technological University, is an accredited institution composed of 45 engineering universities. NTU delivers engineering, science and advanced technology courses to hundreds of corporate and governmental sites across the United States via satellite using advanced digital compression techniques. A number of other satellite educational systems are in operation or on the drawing board, including the Agricultural Satellite Corporation (Ag*Sat), the Community College Satellite Network (CCSN), and the newly created Hispanic Educational Satellite System (HESS). The Joint Comments of the Public Broadcasting Service and the Association of America's Public Television Stations (PBS/APTS) in this proceeding describe PBS's own VSAT system which will provide a two-way interactive data network linking PTV stations, schools, libraries, colleges, universities and other learning centers.

^{4/} For example, in Maine, the University of Maine at Augusta operates ITFS stations serving seven regions of the state interconnected by microwave facilities. Many of the other commenting parties, including the University of Arizona, California State University, Alliance for Higher Education, University of Wisconsin System and the Mendez Foundation, operate ITFS facilities. Unfortunately, direct service to the home or business, and sophisticated video interactivity, are not commonly possible with ITFS.

Not surprisingly, the Clinton Administration recently announced its support for building a national information superhighway. The President's February 18 report to Congress entitled "A Vision for Change for America" described a new grant program to be administered by NTIA. In the President's words, these grants would help to "jump-start" the development of a national broadband, interactive telecommunications network "linking the nation's businesses, schools, libraries, hospitals, governments and others"

In particular, in FY 1993 and 1994, grants would be available to states, local governments, colleges and universities, school systems and nonprofit entities to develop plans for "last mile" information systems to interconnect end users. The goal of the first two years of the program is to design detailed plans for states and localities to be followed by construction grants in FY 1995 through 1998. The program would not favor a specific telecommunications technology: fiber optic or ISDN systems may be appropriate for some states or localities and other technologies (such as LMDS) may be appropriate for others.

LMDS Can Serve the "Last Mile" Function

As reflected in the filings in this docket by the University of Texas-Pan American ("UT-PA"), LMDS offers the capability of bridging the gap in the delivery of educational services to small facilities and individual users. The multipoint and two-way capabilities of LMDS technology, together with the cellular design of LMDS systems,

could permit an unprecedented level of public access to educational telecommunications resources.^{5/}

LMDS as a "last mile" technology is superior to anything else now available, including ITFS, due to the large number of video channels, the fiber optic-like signal quality, the flexibility to operate with a different mix of services (video, voice and data) in particular geographic areas in a market, and the provision of sophisticated interactivity, including two-way video.

The Educational Parties are not in a position to state definitively that LMDS is the "last mile" technology of choice that will emerge from the NTIA-supported studies over the next several years. However, LMDS may very well be the best technology for certain purposes and areas. In such an event, it would be unfortunate if the FCC had already turned all of the LMDS spectrum over to other uses.

The FCC's Proposal Does Not Accommodate Educational Needs

Even with two LMDS frequency allocations in each market, the FCC's current proposal ensures that educators will not have the opportunity to use this technology. The key problem is that the FCC does not propose to reserve any of the LMDS spectrum for educational use.

^{5/} See UT-PA's "Petition for Pioneer's Preference," May 1, 1992 at 5. The Educational Parties support UT-PA's request for a pioneers' preference in connection with its innovative educational application of the Suite 12 LMDS technology.

In the Notice, at n. 6, the FCC seeks comment on UT-PA's request for a set-aside of one-half of the LMDS spectrum. Unfortunately, the FCC focuses on the "probable relative demand of commercial video entertainment programming and educational or other noncommercial programming on the 28 GHz band." There is little doubt that this standard -- looking at current relative demand -- can only result in a determination that the spectrum be given over to commercial uses. Educational and nonprofit uses require advance study and careful proposal development -- exactly the kind of development that is to take place in FY 1993-94 under the NTIA Information Superhighway Program. The whole point of a set-aside is to give longer range public service uses a chance to develop.

There are a number of other aspects of the FCC's proposal that make it unlikely that educators would be able to win licenses and operate LMDS systems. For example, the FCC proposes that all applicants be required to demonstrate a "firm financial commitment" to meet the costs of constructing LMDS facilities covering 90 percent of the population in a service area within three years, and of operating for one year thereafter. Given the excessively large size of the proposed service areas (which are based on Rand McNally Basic Training Areas ("BTAs")), and given the funding realities facing most nonprofit and public sector enterprises, educators will not likely be able to

demonstrate this level of financial qualifications, even if they could realistically construct and operate more realistically-based LMDS facilities.^{6/}

Similarly, the selection process for LMDS applicants works against educators. The FCC obviously expects the usual speculative rush of applications and states its preference to use "competitive bidding" if Congress were to enact enabling legislation. It is hard to understand why the FCC believes that the public interest would be served by requiring educational parties seeking to provide public service to purchase the public airwaves to provide their services. Even if auctions are not possible, the FCC would use lotteries, giving educators perhaps a minuscule chance of prevailing. In fact, their chances would probably be less than even vis-a-vis other LMDS applicants, as the FCC proposes to apply mass media diversity and minority ownership preferences.

The Educational Parties question why the FCC is proposing to move forward on LMDS in this manner? Why must the educational and public service potential of LMDS must be sacrificed at the altar of "competition to cable TV?" There is simply no need for such sacrifice here. The market to provide video entertainment services to the public is becoming more and more competitive with broadcast, cable TV, IVDS, DBS, wireless cable and fiber. While such competition is to be applauded, there is no reason why there has to be two of every facility in each market. Similarly, given

^{6/} It would be wrong for the FCC to force educators to set aside earmarked funds, or pay loan commitment fees, to support applications that, due to the other factors discussed above, would have little chance of being selected in any event.

the large amount of spectrum available to support an LMDS service, there is no reason why all of such spectrum needs to be used for operating two separate commercial LMDS facilities.

The FCC Should Reserve One System in Each Market

The Educational Parties propose that one of the two 1,000 MHz allocations be reserved for educational and public service uses by appropriately qualified educational or governmental licensees. For educators such as UT-PA that are anxious to move forward now with implementation of LMDS, the FCC should be prepared to grant a license upon application. Also, during the next several years, the FCC should permit educators to do wide-spread testing of various educational applications of LMDS. Ultimately, the FCC needs to develop a separate set of LMDS rules for the reserved frequencies that establish reasonable application requirements, implementation standards and permissible use guidelines. In the event of competing applications, the FCC needs to develop a selection mechanism that will efficiently authorize new service and comparative factors that will favor applicants agreeing to operate integrated LMDS systems that will accommodate the educational needs of interested entities.^{7/}

^{7/} The ITFS point system of Section 74.913 of the rules has proved to be an effective and efficient mechanism to select among educational applicants for that service, and the Educational Parties suggest some variant be used for LMDS. Under such a procedure, the staff would award the license to the eligible applicant satisfying the greatest number of criteria formulated to identify entities that are best able to construct LMDS facilities and use them for their intended purposes.

The Educational Parties understand the FCC's reluctance to reserve spectrum in the absence of demonstrated existing demand by educators for the technology. However, it will take more time and study before such demand develops (or does not develop). Ultimately, perhaps something less than an entire 1000 MHz of spectrum will be necessary to accommodate educational needs. In the meantime, the FCC should not foreclose permanently the educational option. If the FCC does not now believe that the prospective educational demand for LMDS is such that a permanently-reserved allocation is appropriate, it might consider a temporary reservation of one of the LMDS frequency groups in each market for a reasonable period of time to allow the technology to be studied and implemented. At the end of this period -- say, ten years -- the spectrum could be subject to reallocation where no educational uses or applications have been made.^{8/}

The Educational Parties note with interest that other parties in this proceeding support the reservation of spectrum for educational use, including the developer of the technology, Suite 12 Group. PBS/APTS, in their Joint Comments, are also very supportive of the idea.

^{8/} Similarly, the Commission could consider a selective set-aside in which an LMDS allocation is reserved only in those markets where qualified prospective applicants commit themselves to use the technology.

The FCC Should Also Require Access by Educational
Users on Commercial Facilities

The FCC should also consider requiring commercial LMDS licensees to provide free or reduced-rate access for educators seeking to distribute their programming or other services to the public. Such access would serve those entities who do not have the need for or capability of constructing and operating an entire LMDS system throughout a BTA, but need to provide educational programming and other functions (interactivity, data transfer, etc.) within certain areas. Congress, the FCC and/or local franchising authorities have already mandated educational access to other multichannel TV technologies such as cable TV, wireless cable and DBS. It seems unlikely that homes subscribing to an LMDS system would also subscribe to one of these other technologies. Therefore, some sort of educational access obligation should be placed on LMDS licensees as a condition on the grant of their licenses.

There are several potential models the FCC might use in developing an appropriate access requirement. Under Section 74.992 of the Commission's Rules, wireless cable operators licensed on ITFS channels have a specified obligation to provide free educational use of up to 40 hours per channel per week on each such channel, as well as to construct a certain number of ITFS receive sites. A similar approach could be used here, modified to reflect the far greater number of channels in an LMDS system and the resulting need for less than 40 hours per week on each channel. Also, it is clear that commercial operators prefer to operate channels devoted full-time to particular

program services; thus, access to a certain number of channels rather than to a certain amount of time on each channel, would be appropriate.

Another access model is the educational access requirement for DBS operators set forth in Section 25 of the Cable Television Consumer Protection and Competition Act of 1992.^{9/} Under the 1992 Cable Act, DBS operators are required to provide reduced-rate educational access to between four and seven percent of their channel capacity. A similar approach might mandate that between two and four channels be made available on each LMDS system for educational use.

More Detailed Rules Can Be Developed in a Later Proceeding
Governing Educational Set-Asides and Access

In an effort to simplify their presentation in this proceeding, the Educational Parties have stressed the need for an educational frequency reservation and for educational access to commercial LMDS systems. The FCC should now generally adopt reservations/access provisions as requested. However, the FCC does not need to decide here all the potentially complicated issues relating to the actual operation of these provisions.^{10/} They can be addressed in greater depth in a separate proceeding

^{9/} The FCC has just released its Notice of Proposed Rule Making in MM Docket No. 93-25, seeking comment on the implementation of these DBS educational access requirements.

^{10/} The Educational Parties believe that many of the proposed rules for the commercial LMDS allocation could be inappropriate for the reserved allocation. For example, service areas should probably be smaller than Basic Trading Areas, and their sizes should be flexible. The implementation requirements (90 percent of the population
(continued...))

once the FCC approves the general notion of the reservation and access. Once that has happened, the FCC could reasonably expect substantial interest by educators in the follow-up proceeding. Given the fact that educational LMDS use is likely to develop somewhat slowly over the next several years as the application of the technology is studied and tested, the delay in adopting precise rules should not be a problem. In the meantime, the FCC must remain flexible in granting experimental authorizations and special temporary authority to permit testing and development of the technology.

Conclusion

The Educational Parties urge the FCC to adopt LMDS rules that provide for educational reservation of one-half of the spectrum and for educational access to commercial LMDS systems.

Respectfully submitted,

AMERICAN COUNCIL ON EDUCATION

**BOARD ON DISTANCE EDUCATION AND
TELECOMMUNICATIONS OF THE NATIONAL
ASSOCIATION OF STATE UNIVERSITIES AND
LAND GRANT COLLEGES**

10/ (...continued)

over three years) should be modified. Application requirements should be revisited and comparative selection procedures and criteria explored. Obviously, basic qualifications and permissible use requirements need to be developed as well.

**INSTRUCTIONAL TELECOMMUNICATIONS
CONSORTIUM OF THE AMERICAN
ASSOCIATION OF COMMUNITY COLLEGES**

**WESTERN COOPERATIVE FOR EDUCATIONAL
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**SOUTH CAROLINA EDUCATIONAL
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By: Todd D. Gray
Todd D. Gray
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Their Attorneys

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